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ABSTRACT

The study was designed to investigate selected variables of handicapped students who complete or drop out of vocational education programs by (1) describing the characteristics of handicapped students in vocational education programs and (2) analyzing variables which may contribute to discriminating between those students who complete all requirements, complete less than all requirements or drop out of vocational education programs. Selected variables regarding handicapped and non-handicapped students who were enrolled in vocational education programs in West Virginia during 1981-82 were obtained. Subjects consisted of all handicapped students (N=2604) and a randomly selected sample of non-handicapped students (N=3679). Descriptive statistical procedures and a stepwise discriminant analysis of the Statistical Package for Social Sciences were utilized to accomplish the analysis. Results indicated that the typical handicapped student was mentally retarded and more than likely enrolled in a Trade and Industrial occupations curriculum. In addition, the handicapped student could best be described as a Caucasian male who was between the ages of 16 and 18 and was enrolled in a curriculum designed for the handicapped. As a result of the stepwise discriminant analysis, two functions containing 15 variables were generated. Those variables most significantly contributing to discrimination between students who drop out and students who complete all requirements were (1) enrollment in an Office Occupations program, (2) enrollment in a Trade and Industrial Occupations program, (3) enrollment in an Agriculture program, (4) presence or absence of a handicapping condition, and (5) participation in a vocational education program within Region 2. (Author/CL)

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PREDICTING SPECIAL EDUCATION STUDENTS' SUCCESS IN VOCATIONAL EDUCATION PROGRAMS

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Abstract

Education is being challenged today to meet the vocational preparation needs of the handicapped student population, particularly through the delivery of appropriate vocational education. The purpose of this study was to investigate selected variables of handicapped students who complete or drop out of vocational education programs by (a) describing the characteristics of handicapped students in vocational education programs and (b) analyzing variables which may contribute to discriminating between those students who complete all requirements, complete less than all requirements or drop out of vocational education programs. Selected variables regarding handicapped and non-handicapped students who were enrolled in vocational education programs in West Virginia during 1981-82 were obtained. Subjects consisted of all handicapped students (n = 2604) and a randomly selected sample of non-handicapped students (n = 3679). Descriptive statistical procedures and a stepwise discriminant analysis of the Statistical Package for Social Sciences (SPSS) were utilized to accomplish the analysis. Results indicated that the typical handicapped student was mentally retarded and more than likely enrolled in a Trade and Industrial occupations curriculum. In addition, the handicapped student could best be described as a caucasian male who was between the ages of 16 and 18 and was enrolled in a curriculum designed for the handicapped. As a result of the stepwise discriminant

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analysis, two functions containing 15 variables were generated. Those variables most significantly contributing to discrimination between students who drop out and students who complete all requirements were (1) enrollment in an Office Occupations program, (2) enrollment in a Trade and Industrial Occupations program, (3) enrollment in an Agriculture program, (4) presence or absence of a handicapping condition, and (5) participation in a vocational education program within Region 2.

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Support for the career preparation needs of handicapped individuals has been shown in recent years through the expressed concerns of parents, handicapped people, educators, advocates, and professional organizations such as the Council for Exceptional Children - Division of Career Development, the American Vocational Association - Special Needs Affiliate, and the Vocational, Evaluation and Work Adjustment Association. Furthermore, the thrust needed to ensure equal opportunities for all handicapped individuals has been demonstrated in the passage of Public Law 94-142 - The Education for All Handicapped Children Act of 1975, Public Law 94-482 - Education Amendments of 1976 and Public Law 93-112, Section 504 of the Vocational Rehabilitation Act of 1973, as amended. These laws have mandated the provision of appropriate career preparation opportunities for handicapped individuals. A great deal of attention in the literature has focused on the impact and implications of the laws on vocational education. The laws have required monitoring of local special education and vocational education programs to assure that handicapped students are being appropriately served. National surveys of handicapped student enrollment in vocational education programs have indicated a relatively small percentage of handicapped student representation.

The literature documents investigations within states of the problems involved in delivering vocational education to handicapped students (Brown, 1979; Buontempo, 1974; Hughes, 1978; Tadlock, 1978; Vocational Education

Early, 1978). The difficulties identified in serving the special education student have been the lack of prevocational experience, the need for instructional skills of more than one educational discipline, the lack of state leadership, the receptiveness of vocational instructors, the need for joint training of special education and vocational education teachers, the lack of support personnel, the need for dissemination of relevant research findings, and the lack of community support for providing appropriate vocational training.

There has been emphasis in the literature on the vocational needs of handicapped students and barriers which prevent them from enrolling in and completing vocational education training programs. Some of the barriers identified by Tindall (1977), Valentine and Oshima (1979) and Phelps and Halloran (1976) have been categorized as attitudinal and emotional, resources, accessibility, and professional preparation.

Three studies (Baker & Jensen, 1978; Binder, 1977; Greenwood, 1979) have dealt with variables identified as useful in predicting those students who would complete a training program and those who would drop out of a program. Some of the variables found to significantly discriminate between those who drop out and those who complete were: type of vocational program enrolled, aptitude score, student status, sex of respondant, grade level of student when vocational choice was made, and reading ability.

Since many handicapped students are limited in the variety of training and employment opportunities available to them, a major concern to the students, parents and educators is the successful completion of a vocational training program, once the student has enrolled. The literature has revealed many factors to which dropping out of school is attributed. These

studies have obtained information on factors such as age, sex, courses taken, achievement, grades, and cultural backgrounds. The results of the research have indicated no one factor that can be considered responsible or indicative of a dropout. Some characteristics which have been identified in the literature as distinguishing dropouts as a group are age of the student, lack of attendance, socioeconomic background, and gender. However, there were no articles located in the literature which dealt directly with handicapped students who drop out of secondary or vocational programs.

Thus, the data revealed through the literature indirectly, and in some instances directly, reinforce the need to examine the characteristics of handicapped students receiving vocational education as well as predictors for completing or dropping out. In addition, the literature has supported the need for increased efforts by state departments of education in identifying and disseminating promising ideas and research findings among local school districts for the vocational instruction of handicapped students.

Purpose

The purpose of this study was to investigate selected variables of handicapped students in vocational education programs. Specifically, a description of the characteristics of handicapped students in vocational education programs and analysis of the variables which may contribute to discriminating between those students who complete all requirements, complete less than all requirements, or drop out of vocational education programs were accomplished. Emphasis was placed on providing information which would be useful for special education and vocational education admini-

strators in the design of programs to meet the needs of their handicapped population.

Research Questions

The following research questions were examined:

(1) What are the characteristics of all handicapped students enrolled in vocational education programs in West Virginia during 1981-82?

(2) Can students who will complete all requirements, complete less than all requirements, or drop out of vocational education programs be identified from selected variables?

Method

The investigation consisted of analyzing selected variables regarding handicapped students and regular students who were enrolled in vocational education programs in West Virginia during the 1981-82 school year. The selected variables were obtained from data that were available from the Vocational Education Management Information System (VEMIS) of the West Virginia Department of Education, Bureau of Vocational, Technical and Adult Education. The most current data available for analysis was the 1981-82 school year.

Subjects selected for the study consisted of all handicapped students (n = 2604) as well as a randomly selected sample of non-handicapped (regular) students (n = 3679) enrolled in vocational education during the 1981-82 school year.

Data was collected via the Student Data Form which is completed by each vocational instructor and submitted to the West Virginia Bureau of Vocational, Technical and Adult Education. Computer access of the data was accomplished through the computer services of Marshall University.

In order to address the research questions, the design of the study involved the application of descriptive statistics and a stepwise discriminant analysis. The variables selected included frequency, ethnic origin, sex, Regional Education Service Agency (RESA), instructional program, age, type of curriculum, current grade, contact hours, drop reason, and type of termination.

An application of the subprograms FREQUENCIES and CROSSTABS of the Statistical Package for Social Sciences (SPSS) was utilized to generate the characteristics of handicapped students.

Results

Question one asked for the characteristics of all handicapped students enrolled in vocational education in West Virginia during 1981-82. Generally, it was found that of the 2604 handicapped students enrolled in vocational education, 50 % were mentally retarded. The next largest enrollment was students with multi-handicaps. Ninety-five percent of the handicapped students were caucasian and approximately 64% were male. Ninety-two percent of the handicapped students in RESA 6 were mentally retarded. The Trade and Industrial occupations area had the highest enrollment. Special Programs and Home Economics had the next highest handicapped enrollment. Most of the handicapped students were between the ages of 16 and 18. Almost 48% of the handicapped students were enrolled in curriculum specially designed for the handicapped student; 34 % were in regular vocational education programs. The most frequent reasons given for a handicapped student dropping vocational education were lack of progress and scheduling problems. Approximately 28 % of the handicapped students completed all requirements; 10 % dropped out of school and 11 %

dropped out of vocational education.

Question two asked if students who will complete all requirements, complete less than all requirements, or drop out of vocational education programs can be identified from selected variables. The stepwise discriminant analysis procedure was performed to determine to what extent the three groups were distinguishable across the selected variables and to what extent each of the variables contributed to this discrimination. Fifteen variables entered the analysis, thus indicating that each contributed significantly to discriminating between the groups. The variables included handicap, age, sex, contact hours, agriculture, distributive education, home economics, office occupations, trade and industrial occupations, RESA 8, RESA 7, RESA 6, RESA 5, RESA 3, and RESA 2.

The analysis produced two discriminant functions. The dominant characteristics of Function 1 were presence or absence of a handicapping condition, enrollment in an agriculture program, enrollment in a distributive education program, enrollment in a trade and industrial occupations program, and enrollment in vocational education within RESA 2. The dominant characteristics of Function 2 were presence or absence of a handicapping condition, age, enrollment in a vocational education program within RESA 8, enrollment in a vocational education program within RESA 6, and enrollment in a vocational education program within RESA 3.

Discussion

With the current interest and emphasis on vocational education for the handicapped, it is important that students are guided properly into appropriate vocational training options. Additionally, it is vital as educators that we design and modify programs to best meet the needs of the

handicapped students. Currently, vocational educators and special educators are "drawing straws" as to the methods and approaches that create successful experiences for the handicapped student. Some are saying it is important that a vocational assessment be conducted; others feel that the vocational teachers must be aware of handicapping conditions; still others say that the amount of time in a program is vital for the handicapped student.

Although the laws relating to education of the handicapped mandate equal access to career preparation for all handicapped students, the figures derived in this study do not totally support this concept. For example, this study indicated that only 37 or 1.3 % of the specific learning disabled students of eligible age are enrolled in vocational education programs. This compares to 48 % of the educable mentally retarded students of the same age who are served in vocational education programs.

Age. This researcher expected to find that the handicapped population enrolled in vocational education programs were older than the non-handicapped, given education and developmental delays of many of the handicapped students. However, this was not shown in this study. Handicapped students were of the same ages as the non-handicapped. Considering that West Virginia's statute for the education of exceptional children extends until age 23 and that parents of handicapped children are more vehemently advocating for vocational education opportunities for their children, this researcher would expect the mean age of handicapped students enrolled in vocational education to increase in the next five years.

Regional Differences. The types of vocational education training programs offered by a school system are governed by the availability of

employment within the region or state. Therefore, handicapped students enrolled in vocational education programs offered by West Virginia schools may differ from handicapped students in other states due to the skills required for the particular training programs. The geography and culture represent additional factors which may influence the kinds of training programs and, consequently, the characteristics of students enrolled in the program. Data from this study supported the fact that there are regional differences in the types of vocational programs offered. Additionally, the region in which a student was enrolled was a significant variable which influenced the completion or droput status of the student.

Program Enrolled. Previous studies (Greenwood, 1979; Ballo, 1973) have indicated that the program in which a student is enrolled can be used to predict whether a student will complete or drop out of school. This investigation has shown that the program in which a student is enrolled is a significant variable in discriminating between those students who will complete and those who will drop out of vocational education. For example, students in agriculture were more likely to not complete all requirements whereas students enrolled in a home economics program were more likely to complete all requirements. The data also indicated that handicapped students continue to be enrolled in trade and industrial occupations such as building maintenance, custodial services. and food occupations.

Type of Curriculum. Data indicated that most of the students enrolled in vocational education programs in West Virginia are receiving specially designed programs.

Drop Reason. Data collected indicated that handicapped students dropped vocational education most often due to a lack of progress or a

scheduling problem. This information may indicate that handicapped students are not being appropriately placed in vocational education programs. Clearly, attention needs to be given to assisting handicapped students in selecting career options or vocational programs. Career education and prevocational education need to be incorporated into handicapped students' programs.

Presence of a Handicap. One of the original perceptions of this researcher was that having a handicapping condition influences an individual's chances for completing or dropping out of a vocational education program. This study showed that students who complete all requirements were more than likely not to have a handicapping condition.

The results of this research reinforce the importance of careful planning in the design of vocational education programs to meet the needs of handicapped students. When designing vocational education programs for handicapped students, special education and vocational education administrators need to consider carefully the types of training programs offered, regional differences which may exist in the handicapped (and non-handicapped) student's completion of a program, the fact that only one-fourth of the handicapped students enrolled in vocational education programs completed all the requirements, and the type of handicapped students entering vocational education.

Based upon this study and the literature reviewed, this researcher would recommend that a longitudinal study be conducted to measure the effects of: the teacher's training, knowledge regarding handicapping conditions, and attitude toward handicaps, vocational assessment data, the variety of delivery systems to serve handicapped students, the amount

of prevocational experience of the student, and the type of support personnel and model utilized for delivering services.

Another area of investigation that this researcher would recommend relates to the influence of a vocational instructor on a handicapped student's enrollment and success in vocational education. Pre-service and in-service training activities have occurred to prepare vocational instructors for working with handicapped students. However, it is this researcher's opinion that a vocational instructor does not feel comfortable instructing a handicapped student until he or she has had "hands on" experience. An additonal aspect of the investigation should address the attitude of the vocational instructor versus the attitude of the academic instructor toward the handicapped student's capability to succeed in a vocational training program. Given a successful experience in instructing a handicapped student, this researcher believes that a vocational instructor may develop a "realistic optimism" for the handicapped student's ability to succeed. This same optimism may not be held by the academic teacher.

A final recommendation for future research involves a handicapped student's success in employment after involvement in a vocational education program. Based upon this study, are there differences in the employment history of handicapped students who complete all the requirements of their program, complete less than all requirements of their program, or drop out of a vocational education program?

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